

the parallel grooves and having a first and second sides, the first side being a volume residing above the meridian plane and a the second side being a volume residing below the meridian plane;

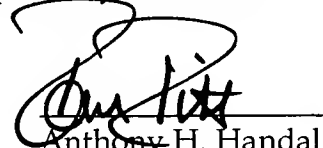
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a lens having a substantially planar surface, a convex surface, and an optical axis, wherein said lens convex surface faces said grating concave surface, and said optical axes of said grating and said lens are substantially coaxial or parallel;  
an entrance port located out of said meridian plane on said first side so that incident light is introduced to the lens at a location out of said meridian plane and on said first side; and  
an exit port located out of said meridian plane on said second side for receiving one order of diffracted light without significant mixing with adjacent orders of diffracted light.

REMARKS

The amendments are made to correct at least one error in the patent and to reduce the filing fees to be paid.

Respectfully submitted,

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**"VERSION WITH MARKINGS TO SHOW CHANGES MADE"**

1. (amended) A ~~modified~~ concentric spectrograph comprising:

a grating, an optical axis, a meridian plane, and a grooved concave surface, said meridian plane containing the grating optical axis, extending perpendicularly to the parallel grooves and having a first and second sides, the first side being a volume residing above the meridian plane and a the second side being a volume residing below the meridian plane;

a lens having a substantially planar surface, a convex surface, and an optical axis, wherein said lens convex surface ~~is facing~~ faces said grating concave surface; and said optical axes of said grating and said lens being are substantially coaxial or parallel;

an ~~primary~~ entrance port ~~being~~ located ~~substantially~~ out of said meridian plane toward on said first side so that incident light is introduced to the lens at a location out of said meridian plane and on said first side; and

an ~~primary~~ exit port ~~being~~ located ~~substantially~~ out of said meridian plane toward on said second side for receiving an one order of diffracted light that maximizes throughput and minimizes astigmatism without significant mixing with adjacent orders of diffracted light.

66. (amended) A method for dispersing light comprising:

passing polychromatic light through an entrance port located substantially on a first side of and at a perpendicular distance from a meridian plane of a concave diffraction grating;

directing said polychromatic light with a lens toward said grating so that  
said light is incident on said grating at least at said meridian plane;  
diffracting said light with said diffraction grating, thereby dispersing  
said light; and

imaging said dispersed light with said lens at an exit port located  
substantially on a second side of said meridian plane for receiving ~~an~~ one  
order of light that ~~maximizes throughput and minimizes astigmatism~~ without  
significant mixing with adjacent orders of diffracted light.

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